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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,611	07/03/2003	Ronald G. Hart	6270/109	6801
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BRINKS HOFER GILSON & LIONE/PML PO BOX 10395 CHICAGO, IL 60610			WACHSMAN, HAL D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/613,611	HART, RONALD G.
	Examiner Hal D. Wachsman	Art Unit 2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 December 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-24 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 21 December 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claim 24 is rejected under 35 U.S.C. 102(e) as being anticipated by McRae (5,859,596).

As per claim 24, McRae (see at least abstract) discloses the digital network. McRae (Abstract, col. 3 lines 50-57) discloses the first and second devices coupled with the digital network. McRae (col. 3 lines 50-60, col. 5 line 24) discloses the

"sensing means for sensing at least one power parameter...generating at least one analog signal indicative thereof". McRae (col. 5 lines 24-26) discloses the "converting means for converting said at least one analog signal ...digital signal representative thereof". McRae (Abstract, col. 5 lines 20-27, col. 11 lines 57-61) discloses the "processing means for generating at least one computed value from said at least one digital signal". McRae (Abstract, figures 2-4, col. 3 lines 64-67, col. 5 lines 1-12) discloses the "communicating means for receiving communications from said digital network...wherein each of said first device and said second devices further comprises a plurality of communication ports, wherein at least one of said plurality of communication ports in said first device is operable to communicate with at least one of said plurality of communication ports in said second device".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of the Applicant's Admissions of the prior art.

As per claim 1, McRae (see at least abstract) discloses the digital network. McRae (Abstract, col. 3 lines 50-57) discloses the first and second devices coupled with the digital network. McRae (col. 3 lines 50-60, col. 5 line 24) discloses the “at least one sensor coupled with said electric circuit...and generate at least one analog signal indicative thereof”. McRae (col. 5 lines 24-26) discloses the “at least one analog to digital converter coupled with said at least one sensor...to at least one digital signal representative thereof”. McRae (Abstract, col. 5 lines 20-27, col. 11 lines 57-61) discloses “a first processor coupled with said at least one analog to digital converter...from said at least one digital signal”. McRae (Abstract, figures 2-4, col. 3 lines 64-67) discloses “a plurality of communications ports, each communication port of said plurality of communication ports operable to send and receive communications over said digital network....substantially simultaneously with engaging in a second communication from a second communication port of said plurality of communications ports”. McRae (Abstract, col. 3 lines 64-67) discloses a communication port of the first device operable to communicate with at least one of a plurality of communication ports of a second device over the digital network but does not clearly disclose that there is a *plurality* of communication ports in the first device that can communicate with at least one of the plurality of communication ports of the second device over the digital network. However, the Applicant’s Admissions of the prior art (page 14, paragraph 0080, lines 1-3, of the substitute specification) teaches a plurality of communication ports such as RS-232, RS-485, Ethernet or industry standard ports for making a device compatible with a network. Consequently, it would have been obvious to a person of

ordinary skill in the art at the time the invention was made to apply the Applicant's Admissions of the prior art to the invention of McRae and have a plurality of communication ports in the first device that can communicate with at least one of the plurality of communication ports of the second device over the digital network as there are a variety of industry standard network protocols and as a network may have a variety of workstations, devices, etc. a plurality of communication ports would facilitate approximately same time communication from the first device to a plurality of other devices.

As per claim 3, McRae (see at least abstract) discloses the feature of this claim.

As per claim 4, McRae (Abstract, col. 3 lines 64-67) discloses the feature of this claim.

As per claim 5, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the substitute specification) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of the Applicant's Admissions of the prior art to the invention of McRae as specified above because Ethernet is one industry standard communications port just as is the RS-232 that is being used in McRae.

As per claim 6, McRae (Abstract, figure 3) discloses the feature of this claim.

As per claim 7, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082, of the substitute specification) teaches the feature of this claim.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of the Applicant's Admissions of the prior art to the invention of McRae as specified above because RS485 is one industry standard communications port just as is the RS-232 that is being used in McRae and was well known in the art for interfacing multiple devices to a shared bus.

As per claim 8, McRae (Abstract, figure 3) discloses the RS232 port. It appears though that McRae does not clearly disclose the Ethernet port. However, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of the Applicant's Admissions of the prior art to the invention of McRae as specified above because Ethernet is one industry standard communications port just as is the RS-232 that is being used in McRae.

As per claim 9, McRae (col. 7 lines 19-67, col. 8 lines 1-6) discloses the features of this claim.

As per claim 10, it is inherent in the art that baud rate is a reference to the speed at which a modem can transmit data and applicable in McRae (column 4 lines 57, 58 for example) which uses a dial-up modem connection as well as the RS-232 links (see at least figure 3 in McRae).

As per claim 11, McRae (Abstract, Figure 3, col. 7 lines 32-39) discloses the feature of this claim.

As per claim 12, McRae (Abstract, figure 3) discloses the features of this claim.

As per claims 13 and 15, it is inherent in the art that RTS is an abbreviation for Request To Send, a signal used in serial communications sent as from a computer to its modem, to request permission to transmit.

As per claim 14, it is inherent in the art that CTS is an abbreviation for Clear To Send, a signal used in serial communications sent as from a modem to its computer, to indicate that transmission can proceed.

As per claim 16, it is inherent in the art that because of any time in waiting for the CTS signal, there would be a delay in transmission from the computer.

As per claim 17, McRae (col. 7 lines 66, 67, col. 8 line 7) discloses the feature of this claim.

As per claim 18, McRae (see at least abstract) discloses the feature of this claim.

As per claims 19 and 20, McRae (Abstract, figures 3, 4) discloses the features of each of these claims.

As per claim 21, McRae (figure 3, col. 3 lines 50-60, col. 5 lines, 2, 3, 24) discloses the sensing step. McRae (col. 5 lines 24-26) discloses the converting step. McRae (Abstract, col. 5 lines 20-27, col. 11 lines 57-61) discloses the generating step. McRae (Abstract, figures 2-4, col. 3 lines 64-67) discloses the receiving step. McRae (Abstract, figures 2-4, col. 3 lines 64-67, col. 5 lines 1-12) discloses the engaging step with the exception that while McRae does disclose a communication port of a first

device operable to communicate with at least one of a plurality of communication ports of the second device over the digital network, McRae does not clearly disclose that the *plurality* of communication ports (i.e both communication ports) that are in the first device can communicate with at least one of the communication ports of the second device over the digital network. However, the Applicant's Admissions of the prior art (page 14, paragraph 0080, lines 1-3, of the substitute specification) teaches a plurality of communication ports such as RS-232, RS-485, Ethernet or industry standard ports for making a device compatible with a network. Consequently, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the Applicant's Admissions of the prior art to the invention of McRae and have a plurality of communication ports in the first device that can communicate with at least one of the communication ports of the second device over the digital network as there are a variety of industry standard network protocols and as a network may have a variety of workstations, devices, etc. a plurality of communication ports would facilitate approximately same time communication from the first device to a plurality of other devices.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of the Applicant's Admissions of the prior art as applied to claim 1 above, and further in view of Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description.

As per claim 2, Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description (System Overview, Analog Input, Clock outputs, figure 2) teaches

the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description to the invention of McRae and the Applicant's Admissions of the prior art as specified above because as taught by Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description (page 2 – System Overview) because the sampling time is precisely known (to better than a microsecond), data from units installed throughout a utility power network can be directly compared therefore instantaneous power can be measured in real-time.

6. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of the Applicant's Admissions of the prior art as applied to claim 21 above, and further in view of Burnett, Jr. et al. (Power System Applications for Phasor Measurement Units).

As per claims 22 and 23, Burnett, Jr. et al. (Power System Applications for Phasor Measurement Units, page 9) teaches that there was increasing interest in synchronized phasor measurement units and how they may be used for various power system applications and that the development of new types of computer-based hardware and the completion of the Global Positioning System of satellites provide the components needed for true synchronized PMU monitoring systems. This page also teaches that synchronized sampling, derived from the GPS, and high accuracy sigma-delta analog-to-digital converters form the basis for a system that can measure the state of the power system at a given instant over any area. Consequently, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to

apply the techniques of Burnett, Jr. et al. to the invention of McRae and send/receive time synchronization requests between the devices because as taught by Burnett et al. (page 11) multiple synchronized PMUs capturing the same event can easily provide the necessary time synchronized data to study wide area effects of system damping and oscillations.

7. The following references are cited as being art of general interest: Murphy et al. (5,768,148) which disclose the use of a multiport RS485 Stargate communication card in a power management control system and Toms et al. (5,530,435) which disclose a utility distribution system with devices having multiple ports.

8. Applicant's arguments filed 12-21-05 have been fully considered but they are not persuasive. As a result of further review and consideration, the Examiner respectfully notes the following from col. 5, lines 2-3, of the McRae patent:

"The power line 12 and RS-232 links 23 and 32 are the communication paths in the **network**".

Communication path 32 is the communication path between monitoring device 18 and the node computer 30 as can be seen in the Abstract figure. As indicated above since 32 is a communication path in the network, then it is clear to see then that there is indeed a second communication port in the monitoring device that can communicate over the network as the *RS-232 link 32 is a communication path in the network* (i.e. there are a plurality of communication ports in the first device that can communicate over the digital network given that path 32 is part of the network).

With respect to the arguments concerning the Applicant's Admissions of the prior art on page 11 of the reply, the Applicant indicates that paragraph 80, lines 1-6, discusses a phasor array processor according to one embodiment of the current disclosure. However, it was not lines 1-6 of paragraph 80 of the specification that was being used in the rejection of claim 1, but rather lines 1-3 of paragraph 80, specifically where it states:

"....suitable hardware, such as RS-232, RS-485, Ethernet or other industry standard communication ports, so that it is network-compatible....".

As these communication ports were industry standard, it is quite clear to see that what is being stated here was indeed well known in the prior art. Further evidence that this was well known in the prior art has been provided in paragraph 7 above in the Murphy et al. reference which employs a multiport RS485 Stargate communication card in a power management control system. With respect to the argument on pages 10-11, of the reply that the Applicant would like to reserve the argument that McRae is not prior art, the following is respectfully repeated from previous office actions:

A continuation-in-part application contains new matter that is not in the parent application as is the situation when continuation-in-part application 08/798,723 is compared to the parent application of that case which is U.S. application serial no. 08/369,849 now U.S. patent no. 5,650,936. Thus, the filing date to be considered in this situation is not the 1994 filing date of U.S. patent no. 5,650,936 but rather **the filing date of the continuation-in-part application 08/798,723 which is February 12, 1997.**

The McRae reference has a filing date of August 30, 1996 which is before the February

12, 1997 filing date of the 08/798,723 C/P application and thus McRae does indeed qualify as art under 35 U.S.C. 102(e). In addition, the Examiner respectfully notes that no arguments were presented in the Applicant's reply to clearly show where and why in the 5,650,936 patent there is support for all the features now being claimed in this new continuation application.

9. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D. Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hal D. Wachsmann
Primary Examiner
Art Unit 2857

HW
March 8, 2006